

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants: NOUGIER et al

Serial No.:

Filed: March 5, 2002

For: Reactor Device Having An Enclosure Made of Refractory  
Material And A Containment Envelope For Bringing  
About Chemical Reactions Requiring Heat Exchange

Group:

Examiner:

**PRELIMINARY AMENDMENT**

Assistant Commissioner  
for Patents  
Washington, D.C. 20231

March 5, 2002

Sir:

Prior to examination on the merits of this application and prior to calculation  
of the filing fee, please amend the above-identified application as follows:

**IN THE CLAIMS:**

Please amend the claims to read as follows:

3. (Amended) Device according to Claim 1, characterized in that the internal partitions (14) have recesses for receiving the heat exchange means (12).
4. (Amended) Device according to Claim 2 in which the internal partitions (14) are formed of abutting modular elements with a shape designed to obtain the desired residence time inside the reactor for the reactant or reactants and the effluents.
5. (Amended) Device according to Claim 2 in which the internal partitions (14) are made of non-abutting modular elements with a shape designed to obtain the desired

residence time inside the reactor for the reactant or reactants and the effluents.

6. (Amended) Device according to Claim 1 in which the cross section of the containment envelope 20 is substantially quadrilateral in shape.

7. (Amended) Device according to Claim 1, characterized by having an outer shell (22) whose cross section is substantially circular and whose inside diameter is substantially equal to the largest dimension of the outside diagonal of containment envelope (20).

8. (Amended) Device according to Claim 1 in which enclosure (10) is made of an inorganic refractory material and containment envelope (20) is made of a metal.

9. (Amended) Device according to Claim 1 in which enclosure (10) has linking and/or anchoring means to the containment envelope (20).

10. (Amended) Device according to Claim 1 in which enclosure (10) is made of a refractory material chosen from porous ceramics, nonporous ceramics, refractory concretes, and aluminous concretes.

11. (Amended) Device according to Claim 1 in which enclosure (10) is fitted to containment envelope (20) in such a way as to prevent gas bypasses between the outside of said enclosure and the inside of said envelope.

12. (Amended) Device according to Claim 1, characterized by having means for assembling and disassembling the heat exchange means (12) as well as internal partitions (14) and at least one means for accessing the inside of reactor (R).

13. (Amended) Use of the device according to Claim 1 to bring about thermal pyrolysis of a hydrocarbon feedstock included in the group of hydrocarbon feedstocks principally containing ethane and hydrocarbon feedstocks principally formed by naphtha.

14. (Amended) Use of the device according to Claim 1 for bringing about a dehydrogenation reaction of hydrocarbon feedstock principally containing saturated hydrocarbons.

15. (Amended) Use of the device according to Claim 1 to bring about a dehydrogenation reaction of a hydrocarbon feedstock chosen from the group formed by hydrocarbon feedstocks principally containing propane and by hydrocarbon feedstocks principally containing ethylbenzene.

16. (Amended) Use of the device according to Claim 1 to bring about a thermal cracking reaction of a feedstock principally containing hydrogen sulfide.

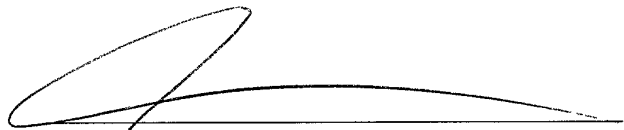
REMARKS

The foregoing amendments are respectfully requested prior to examination on the merits of this application. A marked up copy of the amended claims is attached.

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 612.41239X00), and please credit any excess fees to such deposit account.

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP

A handwritten signature in black ink, appearing to read 'Alan E. Schiavelli', written over a horizontal line.

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REWRITTEN MARKED UP COPY

IN THE CLAIMS:

3. (Amended) Device according to Claim 1 ~~or 2~~, characterized in that the internal partitions (14) have recesses for receiving the heat exchange means (12).
4. (Amended) Device according to Claim 2 ~~or 3~~ in which the internal partitions (14) are formed of abutting modular elements with a shape designed to obtain the desired residence time inside the reactor for the reactant or reactants and the effluents.
5. (Amended) Device according to Claim 2 ~~or 3~~ in which the internal partitions (14) are made of non-abutting modular elements with a shape designed to obtain the desired residence time inside the reactor for the reactant or reactants and the effluents.
6. (Amended) Device according to ~~one of Claims 1 to 5~~ Claim 1 in which the cross section of the containment envelope 20 is substantially quadrilateral in shape.
7. (Amended) Device according to ~~one of Claims 1 to 6~~ Claim 1, characterized by having an outer shell (22) whose cross section is substantially circular and whose inside diameter is substantially equal to the largest dimension of the outside diagonal of containment envelope (20).
8. (Amended) Device according to ~~one of Claims 1 to 7~~ Claim 1 in which enclosure (10) is made of an inorganic refractory material and containment envelope (20) is made of a metal.
9. (Amended) Device according to ~~one of Claims 1 to 8~~ Claim 1 in which enclosure (10) has linking and/or anchoring means to the containment envelope (20).
10. (Amended) Device according to ~~one of Claims 1 to 9~~ Claim 1 in which enclosure (10) is made of a refractory material chosen from porous ceramics, nonporous ceramics, refractory concretes, and aluminous concretes.

11. (Amended) Device according to ~~one of Claims 1 to 10~~ Claim 1 in which enclosure (10) is fitted to containment envelope (20) in such a way as to prevent gas bypasses between the outside of said enclosure and the inside of said envelope.

12. (Amended) Device according to ~~one of Claims 1 to 11~~ Claim 1, characterized by having means for assembling and disassembling the heat exchange means (12) as well as internal partitions (14) and at least one means for accessing the inside of reactor (R).

13. (Amended) Use of the device according to ~~one of Claims 1 to 12~~ Claim 1 to bring about thermal pyrolysis of a hydrocarbon feedstock included in the group of hydrocarbon feedstocks principally containing ethane and hydrocarbon feedstocks principally formed by naphtha.

14. (Amended) Use of the device according to ~~one of Claims 1 to 12~~ Claim 1 for bringing about a dehydrogenation reaction of hydrocarbon feedstock principally containing saturated hydrocarbons.

15. (Amended) Use of the device according to ~~one of Claims 1 to 12~~ Claim 1 to bring about a dehydrogenation reaction of a hydrocarbon feedstock chosen from the group formed by hydrocarbon feedstocks principally containing propane and by hydrocarbon feedstocks principally containing ethylbenzene.

16. (Amended) Use of the device according to ~~one of Claims 1 to 12~~ Claim 1 to bring about a thermal cracking reaction of a feedstock principally containing hydrogen sulfide.